

## Nocturnal and lunar input patterns of pre-settlement coral reef fish in Wallis lagoon (Central South Pacific): Implications for sampling strategies



Diel, nocturnal and lunar input patterns of pre-settlement coral reef fish were described in Wallis, a typical high-island in the south-central Pacific, with a mid-size lagoon and a 2-m spring tidal range. Crest nets were set on the barrier reef to collect incoming pre-settlement fish. A diel input pattern was observed, with 82 to 99% of the larvae arriving at night. Nocturnal input of pre-settlement fish occurred throughout the night, at different times depending on the lunar phases. In contrast to studies done in other locations, the input was not higher during the first part of the night. The input level was related to moonlight and water level, but independent of tide direction. High input levels were recorded during all lunar phases, except the full moon. This lunar pattern differed from maximum settlement observed during the new moon in other locations. Consequently, a sampling strategy for studying temporal patterns of coral reef fish settlement in typical west Pacific high-islands should include new and quarter of the moon phases and should be extended to the entire night.

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